the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the communications art to make and use the same and the invention sets forth the best mode contemplated for carrying out this invention.

4. Claim Rejections - 35 USC § 112

In claim 6, lines 4-6, the new text "constructing a P by P Discrete Fourier Transform (DFT) matrix E and using DFT as a spreading code with code matrix E wherein row vectors are code vectors and column elements are code elements," has been inserted into the claim in order to introduce the definition of the DFT as a spreading code for CDMA in this patent application.

In the specification a first references to the DFT being used as a spreading code in CDMA is: Properties of the DFT (Discrete Fourier Transform) N-dimensional space C^M when the DFT is interpreted as a spreading code in C^M, are used to generate the complex Walsh codes from the real Walsh codes. This interpretation of the DFT as a spreading code enables it to be used in the Kroneckeer construction of generalized hybrid Walsh codes, as briefly summarized in the introduction remarks in line 21 on page 17 to line 4 on page 18. "The complex Walsh CDMA orthogonal codes have been invented to be the natural development for the Walsh codes and therefore are the correct complex Walsh codes to within arbitrary factors that include scale and rotation, which are not relevant to performance. This natural development of the complex Walsh codes in the N-dimensional complex code space C^N extended the correspondences between the real Walsh codes and the Fourier codes in the N-dimensional real code space R^N, to correspondences between the complex Walsh codes and the discrete Fourier transform (DFT) codes in C^N.

The generalized complex Walsh orthogonal and quasi-orthogonal CDMA codes have been invented to increase the choices for the code length and for the performance by combining complex Walsh and Walsh and discrete Fourier transform complex orthogonal codes and the plurality of other codes including quasi-orthogonal PN using a Kronecker construction which is a tensor construction, direct sum construction, and functional combining."

A second reference is: DFT vectors are re-defined as CDMA code vectors in line 17 on page 28 to line 4 on page 29 of the clean specification. "The discrete Fourier transform (DFT) CDMA codes used in the example generation of hybrid complex Walsh orthogonal CDMA codes are given in equations **(4)** along with a fast encoding algorithm.

N-chip DFT complex orthogonal CDMA codes **(4)**

43 DFT code vectors

E_N = DFT NxN orthogonal code matrix consisting of N rows of N chip code vectors

= [$E_N(c)$] matrix of row vectors E(c)

= [$E_N(c,n)$] matrix of elements E(c,n)

$E_N(c)$ = DFT code vector c

= [$E_N(c,0)$, $E_N(c,1)$, …, $E_N(c,N-1)$]

= 1xN row vector of chips $E_N(c,0)$,…., $E_N(c,N-1)$

$E_N(c,n)$ = DFT code c chip n

= $e^{j2\pi\, cn/N}$

= $\cos(2\pi\, cn/N) + j\sin(2\pi\, cn/N)$

= N possible values on the unit circle

44 Fast encoding algorithm for N chip block of data"

A third reference is: Equation (4) starting on page 31 of the clean specification lists example DFT matrices which are interpreted as spreading code matrices for use in the generalized hybrid Walsh code construction.

5. Claim Rejections - 35 USC § 112

Amended claims are believed to satisfy the requirements of 35 USC § 112 as specified in the second paragraph, in that they conclude with 1 or more claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

6. Claim Rejections - 35 USC § 112

In claim 5 the limitation "using addresses specified by said reordering of said N Walsh codes" has been deleted and the sentence has been modified to read "writing the reordered Walsh codes to a hybrid Walsh code memory,". The phrase "said Walsh code memory" does not appear in the text.

In claim 6 the second-to-last step hss been rewritten to clarify how a spreading code matrix C constructed by a tensor product (Kronecker product), direct product, or functional combining, is used in an encoder and a decoder by replacing existing real Walsh code matrix W with C.

7. Claim Rejections - 35 USC § 112

Claims 6,8,9 have been amended to remove the narrative structure replete with indefinite and functional or operative language, following your detailed guidance.

Claim 7 is your rewritten claim.

8 Conclusion

Thanks ever for spending the time and resources to re-write claims 5,6,7 in a language and format suitable for a patent and for explaining how to amend claims 8,9.

Sincerely,

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